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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/490,630	01/24/2000	Andrew W Wilson	ADAPP085B	7417

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EXAMINER

NGUYEN, THANH T

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 10/30/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/490,630

Applicant(s)

WILSON ET AL.

Examiner

Tammy T Nguyen

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on January 24, 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.



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Detailed Office Action

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. The advisory action mailed on August 22nd, 2003 is vacated.
3. Applicants are required to spell out SCSI data, ATAPI data, and UDMA data.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a) because they fail to show all limitations in the claims as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deb et al., (hereinafter Deb) U.S. Patent No. 6,172,990 in view of Alexander et al., (hereinafter Alexander) U.S. Patent No. 5,909,564.

7. As to claim 1, Deb teaches the invention as claimed, including a method for processing storage data that is to be communicated over a network, comprising:

providing storage data to be transmitted over a network (Fig.2A, packet buffer, col.24, lines 50-60, and col.4, lines 27-45);

using a simple transport protocol to generate simple transport protocol data segments of the storage data (col.11, lines 45-50, col.19, line 60 to col.20, line 3) col.19, lines 59-67, and col.20, lines 25-39); and

encapsulating each of the simple transport protocol data segments into Ethernet frames (col.11, lines 44-51, and col.21, lines 15-20).

Furthermore, Deb teaches an Ethernet frame data encapsulation (Fig.8, encapsulate packet, col.21, lines 60-67, and col.7, lines 40-52) but it does not express the encapsulation data

Art Unit: 2143

is serialized data. In light of specification (first paragraph of page.7) serialized referred from parallel-to-serial conversion prior to encapsulate into a frame being transferred. In an analogous art, Alexandria teaches parallel-to-serial data conversion before framing (column.1, lines 46-52 and col.3, lines 58-65). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of Deb and Alexandria to have the serialized data into Ethernet frame because it would have an efficient system that can reduce costs and complexity.

8. As to claim 2, Deb teaches the invention as claimed, wherein the serializing of the storage data using storage encapsulation protocol headers to generate serialized storage data includes:

receiving the storage data, the storage data including one or both of commands and data, the commands including write commands, read commands, control commands ,and status commands (col.6, lines 35-54);

selecting portions of the received storage data to be serialized, the selected portions including commands and data (col. 6, lines 34-54); and

appending storage encapsulation protocol headers to each of the selected portions (Abstract, col.4, lines 3-16).

9. As to claim 3, Deb teaches the invention as claimed, wherein the encapsulating of the serialized storage data using a simple transport protocol to generate simple transport protocol data segments of the storage data includes:

Art Unit: 2143

selecting portions of the serialized storage data (col.13, lines 35-50); and
appending simple transport protocol headers to the selected portions to generate the
simple transport protocol data segments of the storage data (col.28, lines 5-14).

10. As to claim 4, Deb teaches the invention as claimed, wherein the encapsulating of each of
the simple transport protocol data segments into Ethernet packets includes:

generating media access controller (MAC) header (col.2, lines 1-10, col.2, lines 65-67);
appending the simple transport protocol segments to the MAC header (col.4, lines 20-27);
and

appending a cyclic redundancy check (CRC) to the simple transport protocol segments
(col. 6, lines 55-65).

11. As to claim 5, Deb teaches the invention as claimed, wherein the simple transport
protocol headers each include at least a handle field, a type field, a length field, a sequence
number field, and an acknowledgment field (col.2, lines 37-52).

12. As to claim 6, Deb teaches the invention as claimed, wherein the handle field is used to
exchange a handle during the commencement of a session, the handle being exchanged between
a initiator and a target of the network (col.2, lines 37-52).

13. As to claim 7, Deb teaches the invention as claimed, wherein the sequence number field
is configured to count Ethernet frames (Fig.1B, and col.2, lines 37-51).

14. As to claim 8, Deb teaches the invention as claimed, wherein the acknowledgment field is
used to exchange positive and negative acknowledgments of transactions (col.2, lines 55-67).

Art Unit: 2143

15. As to claim 9, Deb teaches the invention as claimed, wherein the storage encapsulation protocol contains a tag so that data segments and data segments of the storage data can be matched to a correct command (col.6, lines 34-54).

16. As to claim 10, Deb teaches the invention as claimed, wherein the STP transport protocol is configured to provide a stream of bytes arriving in the same order as they were sent (col.6, lines 15-30).

17. As to claim 11, Deb teaches the invention as claimed further comprising: appending an IP header to each of the simple transport protocol data segments (col.22, lines 46-64).

18. As to claim 12, Deb does not teach selection from one of SCSI data, ATAPI data, and UDMA data. However, Alexandria teaches selection of parallel-to serial data (column.1, lines 46-52 and col.3, lines 58-65). It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine the teachings of Deb and Alexandria to have selection from one of SCSI data, ATAPI data, and UDMA data because it would have an efficient system that can increase data width and increased speed.

19. Claim 14 has similar limitations as claim 12; therefore, it is rejected under the same rationale.

Claim Rejections - 35 USC § 102

20. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2143

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

21. Claims 13, 15-22 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Deb et al. (USPN 6,172,990– Date of Patent: January 9, 2001, herein referred to as “Deb”).

22. As to claim 13, Deb teaches the invention as claimed, including a method for communicating storage data over an Ethernet network using a non-TCP lightweight transport protocol, comprising:

providing data having a peripheral device protocol format, the data to be communicated over the Ethernet network (col.1, lines 39-51);

selecting portions of the data (col.13, lines 39-50, col.14, lines 13-33, and col.15, lines 1-15);

attaching storage encapsulation (SEP) headers to the selected portions of the data (col.19, line 59 to col.20, line 3);

attaching simple transport protocol (STP) headers to one or more of the selected portions

Art Unit: 2143

having the SEP headers to produce STP packets (col.11, lines 44-51, col.19, line 59 to col.20, line 3); and

encapsulating the STP packets into Ethernet frames for communication over the Ethernet network (col.11, lines 44-51, and col.21, lines 15-20, col.1, lines 39-50 and col.2, lines 37-52).

23. As to claim 15, Deb teaches the invention as claimed, wherein the STP headers include at least a handle field, a type field, a length field, a sequence number field, and an acknowledgment field (col.2, lines 37-52).

24. As to claim 16, Deb teaches the invention as claimed, wherein the handle field is used to exchange a handle during the commencement of a session, the handle being exchanged between a initiator and a target of the network (col.2, lines 37-52).

25. As to claim 17, Deb teaches the invention as claimed, wherein the sequence number field is configured to count Ethernet frames (Fig.1B, and col.2, lines 37-51).

26. As to claim 18, Deb teaches the invention as claimed, wherein the acknowledgment field is used to exchange positive and negative acknowledgments of transactions (col.2, lines 55-67).

27. As to claim 19, Deb teaches the invention as claimed, including a method for communicating data over an Ethernet network using a non- a TCP lightweight transport protocol, comprising:

providing data having a virtual interface format, the data to be communicated over the Ethernet network (Virtual Interface transfer by using the STP protocol, col.2, lines 37-40, col.20, lines 30-36);

selecting portions of the data (col.13, lines 39-50, col.14, lines 13-33, and col.15, lines 1-15);

attaching simple transport protocol (STP) headers to the selected portions of the data to produce STP packets (col.19, line 59 to col.20, line 3); and

encapsulating the STP packets into Ethernet frames for communication over the Ethernet network (col.1, lines 39-50 and col.2, lines 37-52).

28. As to claim 20, Deb teaches the invention as claimed, including a method for communicating data over a network using a non-TCP lightweight transport protocol, comprising:

providing data, the data to be communicated over the network (col.1, lines 39-51);

selecting portions of the data (col.13, lines 39-50, col.14, lines 13-33, and col.15, lines 1-15);

attaching simple transport protocol (STP) headers to the selected portions of the data to produce STP packets (col.19, line 59 to col.20, line 3); and

encapsulating the STP packets into frames for communication over the network (col.1, lines 39-50 and col.2, lines 37-52).

29. As to claim 21, Deb teaches the invention as claimed, wherein the data is one of storage data, network data, file data, and virtual interface data (col.24, lines 50-60 and col.4, lines 27-45).

30. As to claim 22, Deb teaches the invention as claimed, wherein the network is configured to communicate storage data (col.24, lines 50-60 and col.4, lines 27-45)

Conclusion

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

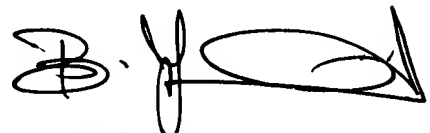
Batz et al U.S. Patent No. 5,918,022 Issued June 129, 2001

Miyao et al U.S. Patent No. 5,889,777 Issued March 30, 1999

30. Any inquiries concerning this communication or earlier communications from the examiner should be directed to **Tammy T. Nguyen** who may be reached via telephone at **(703) 305-7982**. The examiner can normally be reached Monday through Friday between 8:00 a.m. and 4:30 p.m. eastern standard time.

If you need to send the Examiner, a facsimile transmission regarding this instant application, please send it to **(703) 872-9306**. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, **David Wiley**, may be reached at **(703) 308-5221**.

TTN
October 20th, 2003



BUNJO JAROENCHONWANT
PRIMARY EXAMINER